

Utility Model Patent Protection Scenario in Brazil and the Indication of Excessive Rigor in the Inventive Examination

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Abstract

Studies on utility model patents have shown this as an alternative for rapid patent protection that contributes to promoting the country's economic development. Therefore, this research aims to propose a study of the utility model patent in the national patent system, aiming to know if this type of protection has served the purpose of innovative and technological evolution verified in countries with developing economies similar to Brazil. Regarding the methodology, this study is characterized by a quantitative exploratory study that was divided into two phases. The first phase was a bibliographic research related to utility model and the second phase was the analysis of applications for patents of invention and utility model. The results show that there is a greater amount of invention patent filings than utility model patent filings between 2000 and 2019. Also, it was noted that there is a significant decrease in the share of the utility model in the total of analyzed filings, as well as the PI deferral rate is higher than that of the MU in most of the cataloged years. As for the literature and jurisprudence analyzed, it was noticed that the inventive level required for the utility model patent is of lower intensity than that required for invention patents. Therefore, an accurate and objective definition of the inventive act requirement is suggested, in order to distinguish it precisely from the inventive step requirement, in order to speed up the analysis process and increase the demand for utility model patent filings.

Keywords: deposits; technological development; patents.

1. Introduction

Utility model patents are characterized as an easier, cheaper and faster alternative for patent protection, aimed at smaller innovations, which can serve as a useful tool to promote the development of an economy (Janis, 1999; Brack, 2009).

In recent decades, a belief about the relevance of utility model patent protection has emerged from studies focused on intellectual property. This externalization can be explained, according to Suthersanen (2019), by the accounting of successful experiences with the use of the utility model in a process of transition from a developing economy to a developed economy.

Studies related to the patenting experiences of East Asian countries indicate that the utility model regime can

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be particularly useful for technological development in developing economies. The literature points out that, in these countries, technological recovery was motivated by the permission of an autonomous patent, with a shorter duration, and with less stringent requirements than those adopted in the granting of an invention patent, allowing, over time, to, the achievement of a high level of development (Maskus & McDaniel, 1999; Kardam, 2007; Odagiri *et al.*, 2010; Kim *et al.*, 2012).

In this context, results from the work of Prud'homme (2017) show that East Asian countries (mainland China, Japan, South Korea and Taiwan) instituted utility model patent regimes that were less rigid and offered less appropriability during the stages initial economic recovery, probably to facilitate technological learning. Subsequently, the rigor of the regimes was increased as the accumulation of knowledge and, to some extent, technological capabilities increased, highlighting very well the relationship between patenting and the level of economic development of a country.

Boztosun (2010) states that the utility model constitutes an essential component of a patent system to promote sustainable innovation in capitalist countries, whether developed or not. For him, since the main objective of the patent system is to promote innovation, it is essential to provide legal protection, equivalent to the right to property, for the various levels of innovative advances.

The awakening of this idea can be seen with the growing, and relatively recent, interest in this type of protection from several countries. Until 1975, only Germany, Brazil, Italy, Japan, Philippines, Poland, Portugal, South Korea, Spain and Taiwan had this form of protection. Since then, more than 60 countries have included the utility model protection alternative in their patent systems (Ladas, 1975; Kim *et al.*, 2012; Suthersanen *et al.*, 2006).

Currently, the country that has drawn attention for clearly adopting the utility model as a priority policy in economic development is China (Prud'homme, 2017; Li, 2012; Sui, Shen & Song, 2005; Huang & Yu, 2007; Zhao & Liu, 2011). According to WIPO, in 2018 - the last year that the organization offered this type of statistics, worldwide, 2,146,600 utility model deposits were made, with China being responsible for 96.53% of these requests. To add more information that proves the priority attention given to the use of the utility model as a developmental policy, in the same year 2018, China made 1,542,002 invention patent filings, a quantity far lower than its utility model patent filings.

It is in this context, of the use of the utility model patent by developing economies, which keep similarity with the Brazilian economy, that the present study sought to know the scenario that presents itself on the protection of the utility model in Brazil. Going through the Brazilian patent system, it was found that patents have always occupied a relevant space in all Brazilian constitutions. However, when visiting the current infra-constitutional rules that deal with the subject, the small importance of the utility model patent remains evident in contrast to the priority treatment received by the invention patent.

This scenario collides with the economic and technological reality of countries whose economies are considered to be developing, to the extent that, as Gama, Braga and Rodrigues (2016) teaches, since the innovative potential of these countries is below the technological threshold of developing countries, most innovations are situated more in the sphere of the utility model than in the domain of the invention.

And as the current industrial property legislation establishes the same requirements for the granting of patents

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(novelty, inventiveness and industrial application) differing only in terms of inventiveness, the sustained hypothesis is that the absence of a well-defined criterion on the distinction between inventive act, typical of the utility model, and inventive activity, typical of the invention patent, may be leading the INPI to grant equal treatment regarding the inventiveness requirement in these patents, carrying out a more rigorous examination of utility model patents, in clear detriment to the economic development of the country. Thus, the objective of the present work is to propose a study of the utility model patent in the national patent system, aiming to know if this type of protection has served the purpose of innovative and technological evolution verified in countries with developing economies similar to Brazil.

2. Patentry System in Brazil

2.1 Patent in current Industrial Property law and its importance in technological development

Industrial Property, as one of the branches of Intellectual Property, is governed in Brazil by Law No. 9,279/96, which regulates patents, trademarks, industrial designs, geographical indications, industrial secrets and repression of unfair competition, according to its. 2nd.

Regarding patents, the object of this study, it is urged to state that they consist of a temporary property title, granted by the State, to inventors and authors of creations whose counterpart is to reveal in detail all the technical content of the protected matter (INPI, 2017).

The referenced legislation No. 9,279/96 provides for two types of patents: 1) patent of invention, which is a creation that solves a technical problem within a technological field and that meets the requirements of novelty, inventive step and industrial application, with a term of 20 years; and 2) utility model patent, which refers to the object of practical use aimed at improving the use or utility of products, providing them with greater efficiency in their use, through a new form or arrangement, not requiring that it be obtained a new concept, with a term of validity of 15 years (Silveira, 1998).

Both have as requirements in the LPI novelty, inventiveness and industrial application. As for novelty, it should be understood as a creation that is not fully anticipated by a single state-of-the-art document (Dannemann Siemsen Institute of Intellectual Property Studies - IDS, 2005). And the “state of the art” consists of everything made available to the public before the filing date of the patent application, by written or oral description, by use of any other means, in Brazil or abroad, as can be seen in the articles 16 and 17 of the LPI.

By industrial application, it is understood the quality that makes it susceptible of use or production in any type of industry, according to the reading of art. 15 of the LPI. To better explain this requirement, Neto (2016) teaches that the creation that can be reproduced, endowed with a nature that allows its repetition, is one of the aspects observed to assess the fulfillment of the industrial application requirement.

What differentiates them, in terms of the requirements of the aforementioned law, is their inventiveness. In invention, it can be seen that it must be endowed with an inventive step, classified by Barbosa (2010) as a minimum contribution, which means something that is characterized by an inventive leap, in an effective technical contribution and with a certain degree of creativity, as a way of avoiding protection from irrelevant technologies. In the case of the utility model, this requirement is called an inventive act, considered of the same nature as the inventive step, but with a lower degree of inventiveness (INPI, 2002).

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It is worth mentioning the important role played by the National Institute of Industrial Property – INPI. Created in 1970, it is a government agency of an autonomous nature whose purpose is to comply with the rules that regulate industrial property, in compliance with its social, economic, legal and technical function, as well as to pronounce on the convenience of signature, ratification and denunciation of conventions, treaties, agreements and agreements on industrial property (INPI, 2022).

This role becomes more relevant when we consider that the management of industrial property, in particular patents, has become increasingly important for institutions present in a globalized market, configuring, in addition to the main legal market barrier available in relation to competitors, an important element of risk reduction and guarantee of innovation (Silva & Diogenes, 2017).

In this context, patents are considered relevant indicators to assess the country's ability to transform scientific knowledge into technological innovations, insofar as they can be used as a knowledge base for both the acquisition and transfer of technologies (Santos *et al.*, 2014).

The Oslo Manual, the usual reference on innovation in industries, emphasizes that data on patents are of fundamental importance for reading the technological development of countries (OECD, 2006).

And the information that integrates the patent system of a country makes possible: the diagram of the technological evolution in time, of the deposits by countries and by companies; inventory of technological agents in the market and identification of new actors; tracking emerging technologies; monitoring the emergence of new technologies (fundamental patent) and their evolution; recognition of potential technologies for improvements in existing products and processes; monitoring of competing technologies in certain sectors; verification of changes in the strategy of R&D actors; identification of countries where there is certain protection for a better view of the market; monitoring of technological competence (core business); tracking of the main inventors and their research, to promote the anticipation of market movements (Araujo, 1984).

The number of filings and granting of invention patents, in this particular, serves as a strong indicator of a country's development. This is because invention, by its nature, is characterized by a disruptive technological advance, as it permeates everything that is not absolutely accessible to the public (Quoniam, Kniess & Mazieri, 2014).

This statement can be better seen when we compare the number of invention patents filed by the countries that occupy the first places in the ranking of global competitiveness and Brazil. The numbers in table 1 show that in 2020, Brazil, even though it is one of the largest economies in the world, had a lower number of patent filings than the most competitive countries in the world, which is a strong indication of our low technological development.

Table 1. Comparison of filings of invention patents between countries best ranked in the competitiveness ranking of GCI and Brazil

País	Total
USA	496.123
Japan	423.264
Germany	168.092
UK	530.79
Switzerland	448.06
Netherlands	328.12
Sweden	262.21
Canada	23.855
Denmark	13.586
Finland	12.053
Singapore	7.946
Brazil	7.271

On the other hand, studies have reported that utility model patents, which are less inventive, were used as a driving force in the pursuit of technological development in countries that currently occupy the status of development (Suthersanen *et al.*, 2006).

Being far from the status of technological power, the use of the utility model patent could serve as a stepping stone for Brazil, in the near future, to reach the desired level of a developed country. It is therefore important to know the reality that emerges regarding the utility model patent in the country.

3. Characteristics of the Utility Model in Brazil

3.1 Utility Model in Law 9,279/96

Law No. 9,279 of May 14, 1996, in its Art. 9, conceptualizes the patentable utility model as an object, in whole or in part, that can be produced in any type of industry, with a new form or arrangement, involving an inventive act, resulting in a functional improvement in its use or manufacture. In this context, 12. Cerqueira (2012, p. 187) teaches that MU patents can be translated as “material objects, many among themselves, that lend themselves to a practical use and that, due to their particular shape or structure, are intended to facilitate human action or increase its efficiency”.

Regarding the "object of practical use", the INPI considers it broadly, considering tools in general as subject to regulatory protection, a position that is the target of criticism, which defends the return to the German concept that honors the differentiation between the utility model and the invention patent only for the protection of objects of practical use, such as instruments, tools and utensils in the strict sense (Barbosa, 1999). The law admits the protection of utility models for parts of objects. In this regard, the INPI has granted patents for springs, levers, gears and pulleys, among others, but the doctrine alludes to the existence of a legal

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impediment to the protection of object parts for utility models, in view of the difficulties for that part under protection can be manufactured and commercially exploited independently of the object, which makes it impossible to exercise an effective control of the protection (Cunha, 2000).

The requirement that the object be susceptible to industrial application is revealed by the need for it to: present itself in a concrete form, that is, perceptible to the senses; point out the solution of a practical problem of a technical nature; has the potential to be reproduced on an industrial scale, guaranteeing the repeatability of the technical characteristics postulated in the claim and, finally; have applicability in some technical sector related to the production system (Abrantes, 2017).

The utility model also needs the creation to represent a new form or arrangement of the object, which is the novelty that must be achieved. Cerqueira (2012) argues that the novelty criterion used in utility models is the same as for inventions, adding that, in assessing the novelty of the utility model patent application, it must be verified that, unlike inventions, the protection sought does not have as its object the ideas or conceptions that are mandatory in the invention, but the utility model itself substantiated by the form. Thus, novelty always depends on the conference between the model that is intended to be protected and the previously known analogous objects, considered in their concrete form.

Law No. 9,279/96 formally conditioned the characterization of the utility model to the presence of an inventive act, a requirement that did not exist in the previous legislation (Law No. 5,772/71), which increased the rigor in granting this type of patent. The industrial property law and other norms that deal with the subject did not objectively define what the inventive act would be. The INPI Analysis Guidelines, of December 2002, considered that “there is an inventive act when the modification introduced in an object results in a functional improvement in its use or manufacture, facilitating human activity, and/or improving its efficiency”.

There is an attempt by the body, far from conceptualizing the requirement, to clarify the deep gaps left by the LPI. The imprecision treated is evidenced in the attempt to perceive the differentiation between the "evident or obvious result of the state of the art" unique to the invention patent, and the "common or common result of the state of the art" typical of the utility model patent. On the subject, Barbosa (2010), when questioning whether a technician on the subject, a necessary judge of the inventive step, could be replaced by a layman in the case of the inventive act, points out that it is in this fine line between the invention that is evident or obvious and that common or common, that the utility model should exist.

The INPI examination guideline that is in force for the utility model disciplines the inventive act as the unusual or unusual difference between the object proposed by the application and the one anticipated by the state of the art. “That is, the difference should not be commonplace, habitual, normal, banal or ordinary for a technician in the subject” (INPI, 2013). Along with the difficulty of delimiting what is obvious and vulgar for the purpose of examining creation, Garcez, Eloy and Santos (2021) highlights that, in this subtle confusion, it is possible to engender the notion that a certain degree of inventiveness must be required in the utility model, however, less than that required for the invention.

This difficult consideration of inventiveness is a concern that needs to be discussed, insofar as the lack of a clear and objective parameter to be followed by examiners and experts can lead to an equated treatment of the inventive act and the inventive step, a situation in which the examiner it may be too strict with the utility

model patent, denying too much legitimate or lenient privilege, deferring trivial patents. In this conjecture, it is necessary to contemplate the scenario of the utility model patent in Brazil and the accurate examination of its requirements, especially the inventive act.

4. The issue of Inventiveness in the Examination of the Utility Model Patent: How Doctrine and National Jurisprudence Treat the Subject

While the force of the invention patent regime is well studied throughout the world, the literature on utility patents is still scarce, lacking quantitative data related to the legal provisions that govern this protection between countries (Jung & Kim, 2012). In Brazil, the situation is not different, since this requirement is a natural consequence of the lack of importance that protection occupies in the local patent system.

In the absence of more in-depth debates on the utility model, and its importance for the Brazilian economy, it favors the creation of an incipient regulatory environment, whose main consequence is the difficulty of distinguishing between the inventive act and the inventive activity.

This differentiation is important, to the extent that excessive rigor for utility model patents in developing economies can mean a great barrier in the transition to a developed economy. To address the matter, Silveira (2017) reports with surprise or the fact that, despite the extreme relevance of the protection for the national patent system, it has not been the subject of study and discussion, although it is not at a very limited level.

A doctrine on the subject, no matter what, I have a outlined understanding, not a sense, that an inventive act is an inventive activity to a lesser degree. On this path, dealing with the differences between the inventive act and the inventive activity, Barbosa (2006), presenting a test of the absence of normative content that makes a clear distinction of inventiveness in patents, states that "the criterion for examining a utility model is significantly less demanding", noting that the level of inventiveness required must be less than the content of an inventive activity.

Not same exegetical tom, to or interpret or art. 14 of the LPI, Domingues (2009) illustrates that the inventive act "is a breeder of a lower level than the inventive activity required in the invention", therefore, second ele, limiting the utility model to a functional improvement not used ou fabrication of the object of practical use, inventiveness is superficial and less encompassing than the one existing in the invention.

When warning about the lack of debate on this question, Silveira (2017) made a great contribution on the concept of inventiveness in the MU patent, noting that "the invention, compared to the utility model, is distinguished by the inventive level". In the same current, Garcez, Eloy and Santos (2021), discussing the quality of two patent privileges granted in the country in light of patent nullity actions, was emphatic in stating that the level of inventiveness, which is proper to national patents, is of intensity lower us utility models.

Likewise, for local doctrine, or inventive act, requirement for deferment of the utility model patent, should be more easily achieved than for inventive activity, requirement for deferment of the invention patent.

National jurisprudence is supported by exegesis disseminated by specialized doctrine. Before delving into two trials, it is important to note that the decisions that were made as a discussion on this matter, since in its entirety, analyzed in patent nullity actions, a proper field of judicial debate that involves the requirements of a patent.

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By force of art. 57 of the LPI, which imposes compulsory participation of INPI in processes, competition to process these demands and federal justice and, as INPI's headquarters is located in the State of Rio de Janeiro, in most cases two final judges have pronounced by the Court Federal Regional of the 2nd Region, which has two specialized groups for causes involving industrial property. Eventually, judicial decisions of patent nullity actions may be found in other federal courts, permissive face of the civil procedural norm, as well as, in the headquarters of actions that discuss infringement of industrial property, or subject may emerge in judgments declaimed by the state justices.

The first decision that was reported to have been openly challenged was a judge of the year 2008, originating from the 1st session of the Federal Regional Court of the 2nd Region, when the analysis of the Civil Appeal No. 1995.51.01.002920-5, whose Report belonging to the Judge Aluísio Mendes. The case deals with a request for the declaration of nullity of patent MU 7201446-6, issued on 10/27/1998, relating to "Disposition Introduced in Float for Chlorine in Granules or Pellets ", because it allegedly contains an object characterized as non-state gives technique. Upon resolving the quest, the Rapporteur maintains the validity of the patent, emphasizing that, for the protection of the utility model, the "object will have to possess or require inventiveness, or choose, inventive activity in a lesser degree of consistency".

This verdict paved the way for the foundation of a judicial decision quite prominent in the annals of Brazilian jurisprudence, which has served as a paradigm for all the provisions that are known about the conceptualization of inventiveness in the utility model. The judgment concerns the judgment of Civil Appeal No. 2004.51.01.520978-0, coming from the 2nd specialized group of the Federal Regional Court of the 2nd Region, published in 2008. The case is iconic because, in the first instance, the judicial expert, assisting of the court in the demand, applied the concept of inventive step, typical of IP, to the MU, from which only an inventive act is required.

In the original instance, the Judge of the 37th Federal Court of Rio de Janeiro declared the registration of MU 7300893-1 to be invalid, referring to “constructive disposition in elements and accessories for the composition of projecting frames.” When judging the appeal, the TRF2, by a majority of its members, decided to restore the invalidated patent. The rapporteur of the case, Judge Liliane Roriz, stated that “unlike the invention, where the novelty has to be absolute, in the utility model it is enough that the novelty is relative”. And he went further, saying that the adjectives used in arts. 13 and 14 of the LPI - "evident or obvious" for IP and "common or vulgar" for MU - were not inserted by the legislator for free, since "it is a classic rule of hermeneutics that which stipulates that the legislator does not use useless words”, to conclude that the degree of inventiveness required for the utility model must be in a smaller proportion than that required for invention. Based on these premises, the Federal Court understood that the expert mistakenly used, for the utility model, the inventive criterion that applies to the invention, so that the reform of the sentence was what was imposed.

In another judgment of the Specialized Panel of the Federal Regional Court of the 2nd Region, concerning Civil Appeal No. 2006.51.01.530252-0, which took place in 2009, Judge Liliane Roriz, once again faced with the difficult question regarding the differentiation between inventive and inventive activity, stated that, unlike the inventive activity, which consists of a grouping of human acts in series, which lead to an objectified result, “the inventive act consists of an intervention of human ingenuity, in order to achieve the expected result, that

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is, , the end aimed at is simpler, less sophisticated and less costly than in the invention.”

In the records of Civil Appeal No. 2010.51.01.812556-9, published on 08/02/2016, which contested the decision of the 13th Federal Court of Rio de Janeiro, the second specialized group of TRT2 once again faced the intricate theme. The irresolution dealt with a request for a declaration of nullity of the utility model patent MU 8402569-7, consisting of the "constructive provision introduced in a bilateral fan for the application of agricultural pesticides."

The central point of the demand, as illustrated by the Judge-Rapporteur Simone Schreiber, was whether the patent MU 8402569-7 had an inventive step, and there was no further controversy regarding the fulfillment of the other patentability requirements. The dispute draws attention because the expert who assisted the Court in the first instance understood that the contested patent did not meet the inventiveness requirement. However, the Rapporteur, in her vote, despite directing the term “inventive step” to the utility model, tried to rule out the technical conclusion, recognizing that “the inventive act necessary for a utility model patent is less complex than the required for the invention patent.” Explaining her understanding, which prevailed in the judgment, the Rapporteur clarified that the distinction used in the wording of arts. 13 and 14 of the LPI, although subtle, “shows the difference in inventive depth between the invention and the utility model, consistent with the reduced protection time that the legislation gives to the utility model” which, according to art. 40 of the LPI, is 15 years, as opposed to the 20 years of protection granted to the invention patent. To confirm the validity of the patent, he also stressed that the purpose of the utility model “is not to solve existing problems in a certain area – this is the purpose of the invention – but to improve the use of an object, adding greater efficiency or convenience.”

In another judgment of the Federal Regional Court of the 2nd Region, published on 11/09/2017, in the records of the Civil Appeal No. ratifying the understanding espoused by the TRF2 since 2008. The case dealt with the challenge of the sentence handed down by the 13th Federal Court of Rio de Janeiro, which dismissed the request for nullity of the administrative act that granted the utility model patent MU 8700323-6 entitled “Gateway for installing a split-type air conditioner.” When basing the decision to maintain the patent, the rapporteur provided that in the examination of utility model patent applications, "it cannot be demanded that the object deserving the privilege is absolutely new, as well as that it has a degree of inventiveness as high as that required for invention patents.”

In a recent judgment, published on 10/25/2019, TRF2, in the context of Civil Appeal No. 2017.51.01.161420-0, whose Rapporteurship belonged to Judge André Fontes, referred to the understanding expressed in the decisions cited herein. The object of the controversy concerned the registration of utility model patent MU 8300765-2, referring to the “provision introduced in a locking lock for closing safes and the like.” The rapporteur, when pointing out that the novelty required in the utility model, unlike what happens with inventions, is not absolute, considered that the degree of inventiveness required for the utility model is less intense than that required for an invention, referring to the judgment of the Civil Appeal n.º 2004.51.01.520978-0, of the same court, of rapporteurship of the Judge Liliane Roriz.

As can be seen, the literature that emanates from Brazilian doctrine and jurisprudence has pointed, still timidly, that the inventive level required for utility models is lower than that required for inventions. However, the

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analysis of the scenario of concessions of utility model patents in Brazil, outlined below, will suggest, in practice, an equalization of the inventive level required for the two types of patents (IP and MU).

5. Methodology

The study highlights a quantitative exploratory analysis that presents a survey of requests for deposits of invention patents and used model. In addition, it is understood that the exploratory research seeks to discover or characterize the nature of the variables that are wanted to be known (Köche, 2011).

Além disso, a bibliographical research was carried out highlighting legal aspects related to the utility model in Law 9.279/96 and the question of inventivity not examined by the utility model patent.

Still, this study was divided into two phases. The first phase was a bibliographical research related to the utility model and the second phase was the analysis of two requests for deposits of invention patents and utility models. Figure 1 highlights the stages of the second phase of the research.

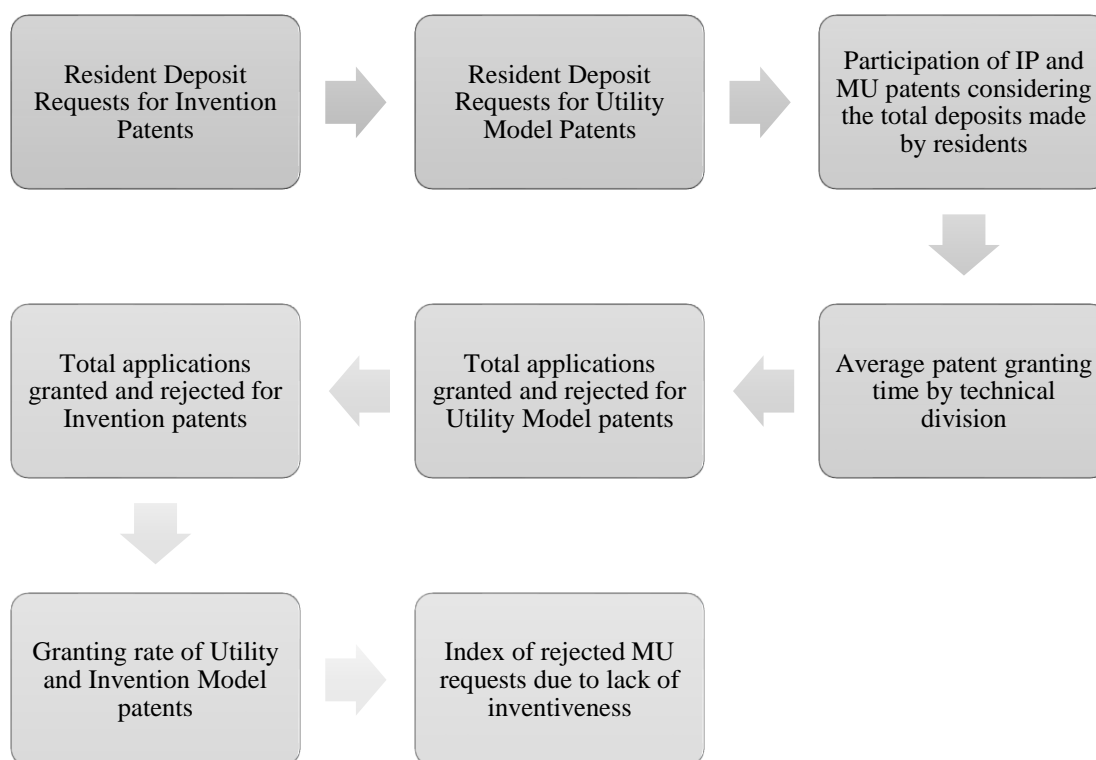


Figure 1. Stages of analysis of two requests for deposits of patents for inventions and utility models (2000 – 2019)

Figure 1 highlights the analyzed formats given the number of deposit requests, deferred and indeferred requests, average concession time, UM patent deferment tax and indeferred UM request rate, aiming to contribute to identifying the panorama of the model of utility in Brazil.

6. Overview of the Utility Model in Brazil and the Indication of Equal Treatment of the Concept of Inventive Act and Inventive Activity in Patent Examination

In order for patents to be used as a driver of technological development, an efficient patent system is necessary, with correctly defined propositions and processing compatible with its demand and the nature of the chosen protection (Gama, Braga & Rodrigues, 2016).

In this way, when looking at the utility model patent in Brazil, it seems evident the little importance that the legislator and, consequently, the Brazilian patent system, gives to this type of privilege.

This finding begins to be evidenced when we examine the number of patent deposits made in Brazil, by residents, considering the years 2000 to 2019. According to data collected at the INPI, in the aforementioned interstice, the number of 148,918 applications for deposits were made. of patents (Invention and Utility Model) in Brazil (INPI, 2022).

Figure 2 shows the evolution of applications for patents for inventions, formalized by residents, from 2000 to 2019. The total amount of patent applications for inventions reaches the sum of 87,826, equivalent to approximately 60% of patent registrations made.

Comparing the time interval, in the 19 years considered, only in the years 2006, 2010, 2014 and 2018 there was a reduction in records compared to the previous year, with in the years 2001, 2002, 2003, 2004, 2007, 2008, 2001, 2012, 2013, 2016, 2017 and 2019 presented a positive growth rate in that regard. It is also worth noting that, in 2000, 3,179 requests were made and in 2019 a total of 5,465, that is, there was a 58% growth in the number of deposits.

Still on the total number of registrations made in 2019 (5,465), a result is 10% higher than that observed in 2018, equivalent to 6.2% of the total of all patent applications submitted. It can also be seen that this number of requests is the second largest in the historical series, surpassed only by the 5,480 formalizations produced in 2017, thus representing a difference of only 15 requests.

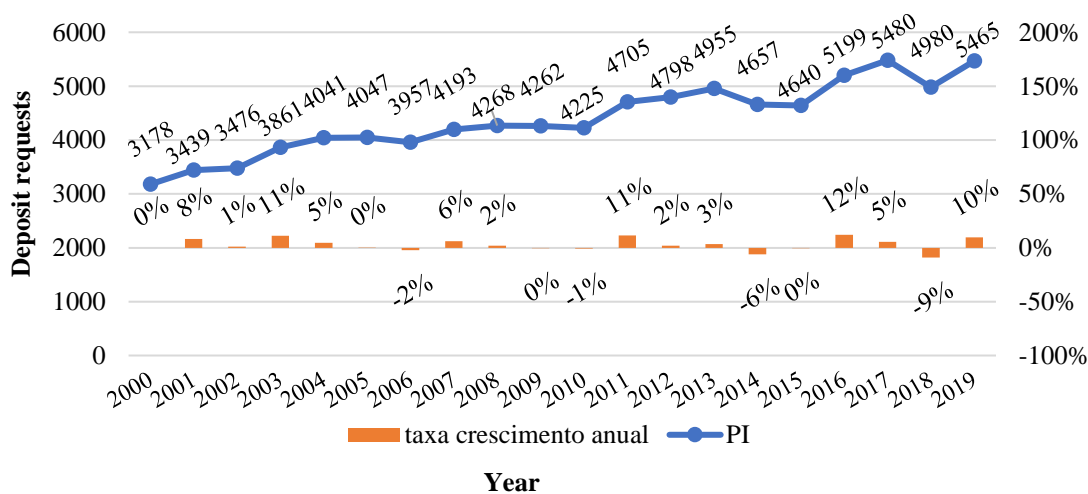


Figure 2. Resident Applications for Invention Patents (2000 – 2019)

The positive numbers presented by the filings of invention patents contrast with the applications for utility

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model patents in the same period.

Figure 3 provides a perspective on the evolution of utility model patent applications, made by residents, in the period from 2000 to 2019. The total utility model patent filings totaled 61,092, thus representing 26,734 applications less than the invention patents formalized in the same period.

As can be seen, the number of utility model patent filings is much smaller than the number of invention patents filing. In the years 2000, 2001 and 2002, 3,200, 3,448 and 3,478 utility model patents were filed, respectively, while, in the same period, 3,178, 3,439 and 3,476 invention patents were filed, respectively. In this way, what appears is that in the years that make up the beginning of the historical series - 2001 and 2002 -, the registrations of applications for patents for utility models were greater than applications for patents for inventions, so that, from 2003 onwards, there was a positive evolution in the number of invention patent filings, concomitant with a decrease in the number of utility model patent filings.

Figure 2 shows that in 2000, 3,200 utility model requests were made, while in 2019 we had a total of 2,756, clarifying a decline of 13.8% in the number of deposits.

This drop is justified by the negative growth rate - reduction of records compared to the previous year - with expressive values in the years 2004, 2005, 2006, 2007, 2010, 2012, 2014, 2015 and 2018, having in the years 2001, 2002, 2003, 2004, 2007, 2008, 2001, 2012, 2013, 2016, 2017 and 2019 presented a positive growth rate in that regard.

When analyzing the applications made in 2019, in the order of 2,756, it is verified that they are equivalent to 4.5% of the total utility model patent deposits made in the time frame studied. Despite the 11% growth compared to the previous year, it is the fourth lowest in the historical series, with a number of requests greater only than those registered in the years 2014, 2015 and 2018, with 2,639, 2,607 and 2,493 formalized requests.

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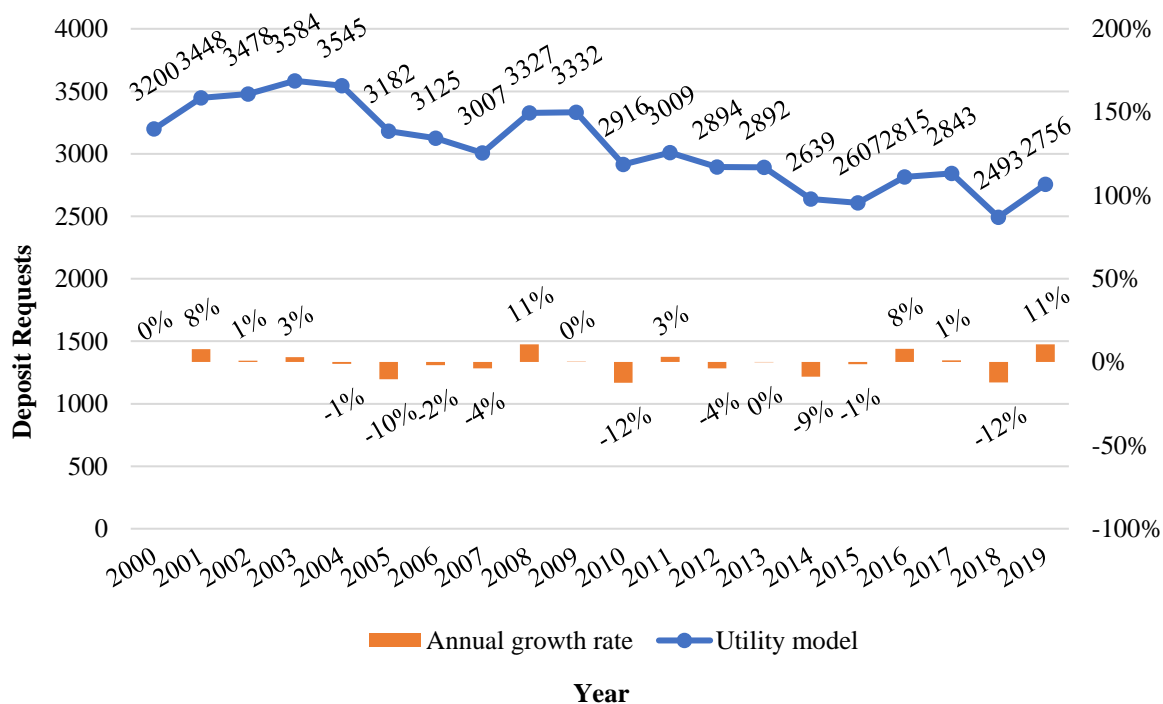


Figure 3. Resident filing applications for Utility Model Patents (2000 and 2019)

A broader view of how interest in the use of utility model patents is progressing in the country can be observed when we relate the share of each patent on the total deposits made by residents. Figure 4, rather than showing a significant decrease in the share of the utility model in total deposits between 2000 and 2019, points out that the country's development policy is focused on encouraging more complex technologies, which can only be achieved by patents of invention.

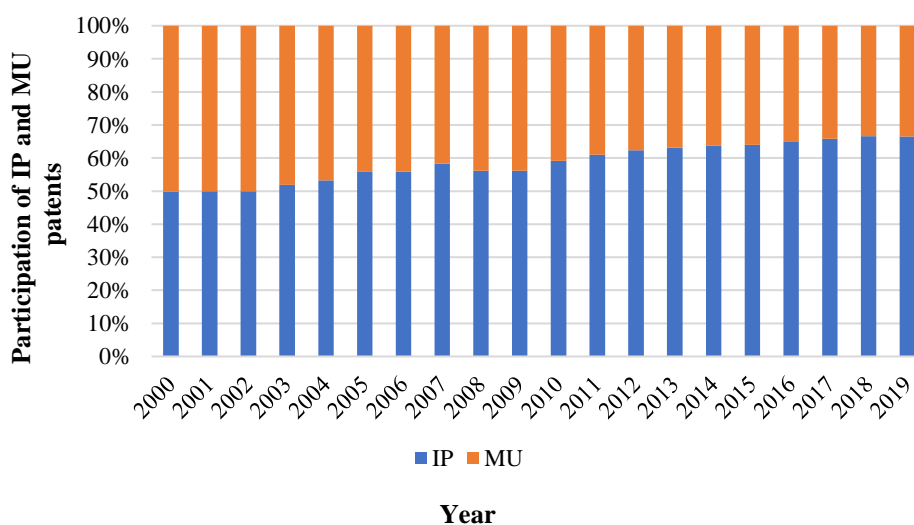


Figure 4. Participation of IP and MU patents considering the total deposits made by residents between 2000 and 2019

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At this point, it is necessary to say that the signs of little importance for the MU patent in Brazil lead the country to a path totally opposite to that practiced by East Asian countries in the 1960s, when they still had an economic and technological situation similar to of Brazil in contemporary times and, currently, by China, which has been strongly prioritizing the use of the utility model patent, over the invention patent, as a technological and economic driver (Hauser, 1987; Kumar, 2003; Kim *et al.*, 2012; Heikkilä, 2014).

This panorama can be explained, in part, by the normative treatment that is directed to this type of privilege. Just to make a comparison, when an analysis is made of the specific treatment of the types of patents in the current Industrial Property law, it appears that the invention is much more predominant in the standard, as seen in Table 2.

Table 2. Number of references to the words invention and utility model in the legal framework of national industrial property

Words	Direct quotes in law	Citations contained by articles	Articles
Invention	32	20	art. 2º, I; art. 6º caput, §§ 3º e 7º; art. 8º; art. 10; art. 11; art. 12; art. 13; art. 15; art.17; art. 22; art.40; art. 43, VII; art.76; art. 88 caput, §2; art. 90; art. 91; art. 183 caput, I e II; art. 201
Utility Model	24	16	art. 2º, I; art. 6º caput e §3, art. 7º; art. 9º; art.10; art. 11; art. 12; art. 14; art. 15; art. 17; art. 23; art. 40; art. 88 caput e §2; art. 90; art. 91; art. 183 caput e I e II

This indifference is also clearly observed in the INPI's Patent Examination Guidelines. As can be seen from the general rule presented in Resolution No. 169, of 07/15/2016, which establishes the guidelines for examining patent applications - Block II - Patentability, the document, although it dedicates specific chapters on state of the art, novelty and application industrial, requirements for granting both the invention patent and the utility model, does not even mention the MU and the requirement of the inventive act. However, it devotes particular chapters, and intense content, to invention and inventive step.

Other countless regulations came to deal specifically with the invention patent, without any reference to the utility model, as can be seen in Table 1, which invokes consultations with the patent legislation provided by the INPI.

Table 3. INPI's unique rules focused exclusively on invention patents

<u>INPI PR Ordinance No. 52, of December 14, 2021</u> - Disciplines the preliminary requirement of the application for an invention patent pending examination, using the results of searches carried out in Patent Offices of other countries, of International or Regional Organizations.
<u>INPI PR Ordinance No. 21, of March 26, 2021</u> - Disciplines the preliminary requirement of the application for an invention patent filed in 2017 and pending examination, using the results of searches carried out in Patent Offices of other countries, of International Organizations or Regionals.
<u>INPI DIRPA Ordinance No. 1, of January 7, 2021</u> - Establishes procedures for the preparation of opinions on preliminary requirements 6.21 and 6.22. Establishes procedures for the first technical examination of the patent application after the preliminary requirements (6.21) and (6.22) and after the pre-examination requirement (6.20), which is carried out under Resolution 241/2019 (6.21).
<u>Ordinance INPI PR No. 412, of December 23, 2020</u> - Disciplines the analysis of an invention patent application pending examination without prior art searches carried out in Patent Offices of other countries, of International or Regional Organizations.
<u>INPI PR Ordinance No. 411, of December 23, 2020</u> - Establishes the new version of the guidelines for examining patent applications involving Computer Implemented Inventions (IIC).

Regarding the utility model, only one specific rule governs the examination of this type of privilege, namely Resolution PR n° 85 of 04/11/2013, from which it can be concluded that, until then, there were no specific guidelines for this exam type. It should also be noted that the aforementioned provision, in addition to presenting succinct content on the utility model patent, translates, generically and briefly, what is meant by the requirements of novelty and the inventive act.

And the lack of a normative discipline that contemplates the importance of this type of privilege, dealing mainly with the difficult distinction between inventive act and inventive step, may be leading the INPI to grant equal treatment regarding the requirement of inventiveness in IP and MU patents.

The first indication of the problem can be seen in a brief analysis of the time required for the granting of patents by the INPI in 2018. Figure 5 shows that the average time for granting an invention patent is 10.6 years, while the of the utility model is 7.1 years. When considering the time that certain IP divisions take to grant a patent - such as Metallurgy and Materials, Food and Agronomy, Cosmetics and Agrochemicals -, it is noted that they are similar to the utility model division, which indicates that the analysis process of the two patents may be being treated in a similar way.

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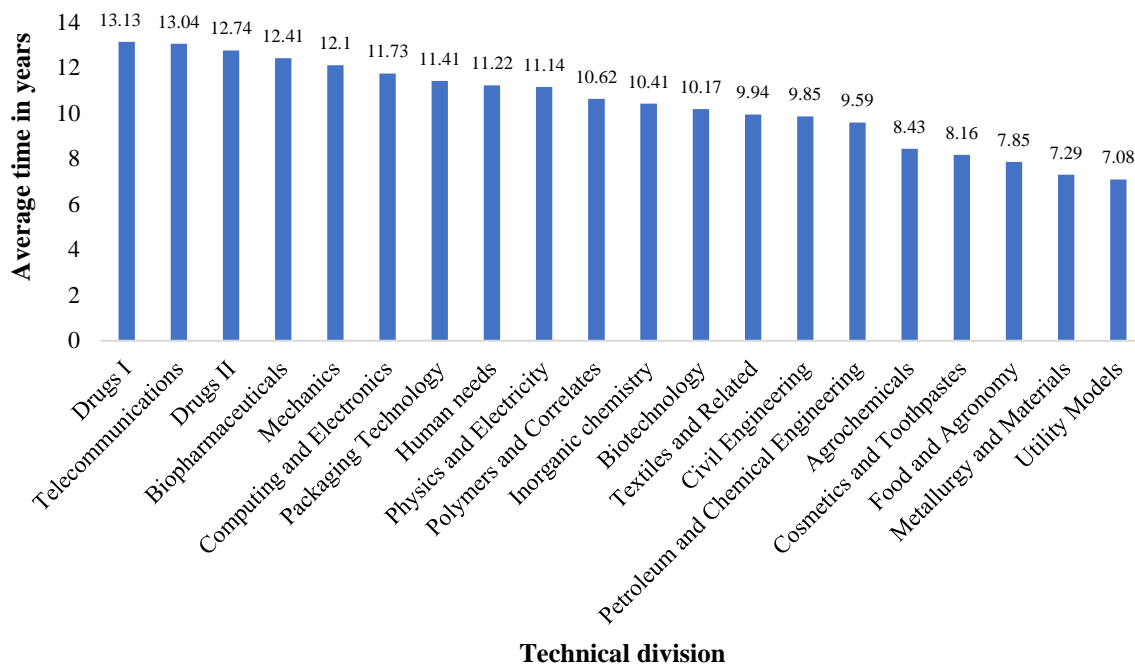


Figure 5. Participation of IP and MU patents considering the total deposits made by residents between 2000 and 2019

It is also important to highlight that Figure 4 shows the reduced importance with which the INPI treats utility model patents. While for invention patents there are nineteen technical divisions, segmented by the different technological fields and respective related technical subjects, for the utility model there is only one division, which encompasses all the technological sectors that could involve this type of protection.

Regarding the data used in Figure 5, and why the study was based only on the patent granting time calculated in 2018, it is important to provide a brief clarification. In 2019, INPI, through DIRPA, started a project known as "Combat to the Backlog" aimed at reducing the number of patent applications that were waiting for appreciation. With the aforementioned plan, instituted by the publication of Resolutions No. 240/19 (revoked by Ordinance No. 412/20) and No. 241/19, the patent agency stopped providing backlog data in a measure of time, starting to make them viable in stock format.

It is, however, with the comparative analysis of the granting rate of IP and MU patent applications that the idea is strengthened. This is because, as Abrantes (2014) teaches, if the utility model patent passes through the assessment of the inventive act, whose analysis must be less rigorous than the inventive step necessary to grant the invention patent, the expected rate is that the rate of granting of MU patent applications is higher than that of IP.

Table 4 shows the number of approval and denial decisions - identified in the INPI database with codes 9.1 and 9.2, respectively - relating to the two types of patents.

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Table 4. Applications granted (9.1) and rejected (9.2) of Utility and Invention Model patents between the years 2004 and 2020

Year	Utility Model Patent			Patent of Invention		
	Total	Deferral	Rejection	Total	Deferral	Rejection
2004	482	314	168	718	565	153
2005	710	429	281	1232	980	252
2006	543	315	228	1068	863	205
2007	352	278	74	1089	892	197
2008	741	418	323	2063	1286	777
2009	683	416	267	2059	1351	708
2010	765	383	382	2175	1251	924
2011	623	312	311	1466	826	640
2012	458	254	204	1166	723	443
2013	724	358	366	1408	794	614
2014	860	447	413	1674	886	788
2015	883	422	461	1969	1062	907
2016	982	580	402	2757	1575	1182
2017	1249	835	414	5060	3222	1838
2018	716	394	322	7397	4903	2494
2019	128	97	31	8211	6055	2156
2020	64	43	21	5227	4227	1000

To arrive at the annual grant rate of these patents, the number of grants (9.1) is divided by the sum of grants (9.1) and denials (9.2) that took place in the same year.

Contrary to what was expected, the numbers presented show that the granting rates of the two patents are very close, and the IP granting rate is still higher than that of the MU in most of the cataloged years, as shown in Figure 6.

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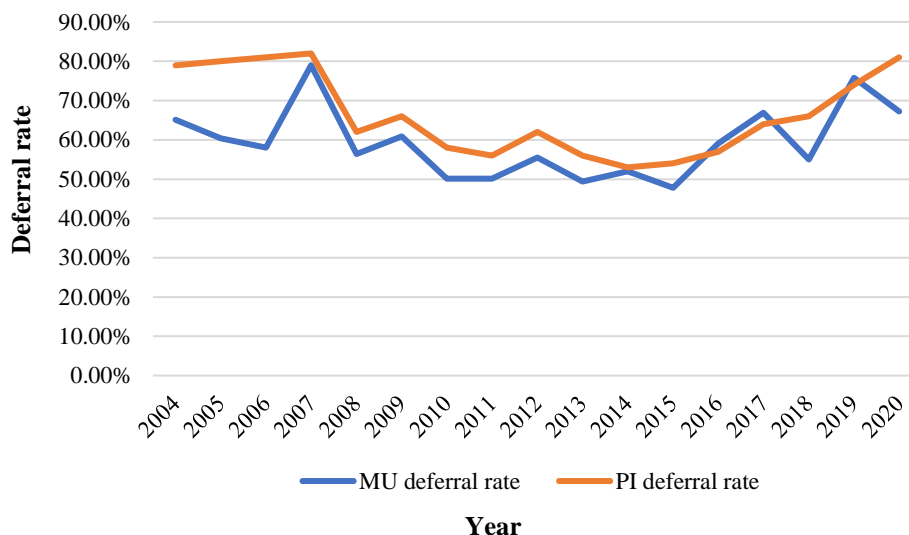


Figure 6. Granting rate of Utility and Invention Model patents between 2004 and 2020

The data collected are extremely relevant, insofar as, according to Quillen *et al.* (2002), the concession fee can indicate the extent of the rigor of the patent examination process. In this path, the lower the concession fee, the more rigorous the examination process, and it is therefore essential to monitor the concession fee as a way of evoking attention to the rigidity of the patent examination process (Potterie & Mejer, 2011).

And as Figure 5 suggests, in practice, the INPI may be treating utility model applications with the rigidity that is typical of the examination of an invention patent.

This assertion gains strength when we collect data regarding the meritorious content of decisions that reject utility model patent applications. Figure 7 shows the rate of rejections caused by lack of inventiveness (inventive act) between the years 2010 and 2020.

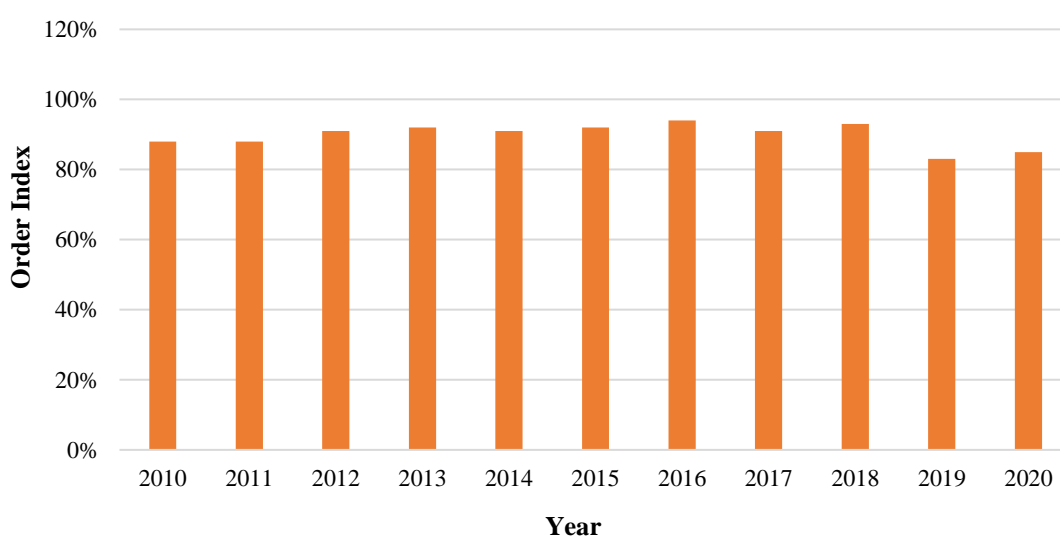


Figure 7. Index of rejected MU requests due to lack of inventiveness

As evidenced, most refusing decisions are based on the absence of inventiveness (inventive act), a common

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characteristic of both patents, suggesting that the thresholds for measuring inventiveness are strict.

This behavior can be explained by the current understanding adopted in Germany on the issue. In 2006, the German Federal Court of Justice, the highest court in the country, ruled that, despite the legislation granting different qualifiers as to the level of inventiveness of an invention patent (erfinderischen Tätigkeit - inventive step) and a model (erfinderischen Schritts – inventive step), these requirements can be used synonymously when evaluating these patents (Abrantes, 2017).

Being the first country to adopt the utility model patent in a patent system and having used this protection in the transition to reach its high technological development, every approach adopted there causes repercussions in patent systems in other countries. However, it is important to note the need for a more selective look at inventiveness in the patent systems of countries that are currently at an advanced technological level, insofar as the requirements for the protection of an invention are greater than in developing countries. development situation.

These data solidify the importance of providing greater clarity, objectivity and standardization regarding the concepts related to inventiveness (inventive act and inventive step) in the current industrial property law. The discussion, therefore, unfolds by the understanding sown in national doctrine and jurisprudence on the difficult issue.

7. Conclusion

In this article, it has been seen that East Asian countries, especially Continental China, are only seeking to increase the rigor of their patent system for apostolic utility models, and have developed a significant capacity for patenting in an attempt to improve the quality of patents and the degree of sophistication. do technological development.

The experience of East Asia can serve as a model for the improvement of the Brazilian utility model regime, it is now considered of little importance that either the legislator and, consequently, the Brazilian patent system, confers this type of privilege, or that it obviously does not reflect I am interested in its protection in comparison with invention patents.

Contrary to two Asian countries, or Brazil, they have clearly chosen to confer priority treatment to the invention patent regime, a paradoxical circumstance, currently considered to be its current stage of technological development and its position in the global ranking of innovation (57th place, in a ranking of 132 countries).

The literature and jurisprudence have pointed out that the level of inventiveness required for a utility model patent is less intense than that required for invention patents. However, this work provides indications that in practice there may be an equivalent treatment of the inventiveness required for the two types of patents (MU and IP), a scenario stimulated by the inexistence of a normative discipline that considers the importance of these types of privilege, trying mainly gives difficult distinction between inventive act and inventive activity. Given the findings of this research, it is evidenced the need to establish an accurate and objective definition of the inventiveness requirement, in order to distinguish it precisely from the inventiveness requirement. Perhaps as well, with the establishment of this objective standard, to be followed by examiners and experts,

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the demand for deposits of this type of patent will increase, approaching the utility model regime of the ultimate objective of the patent system, whichever is desired, or the economic and technological development of the Country.

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